ENTOMOLOGY.[1]

Dr. Lintner's Sixth Report.—Through the kindness of the author we have been favored with Dr. J. A. Lintner's Sixth Report as State Entomologist of New York. Though less bulky than some of its predecessors, the present volume shows the same painstaking preparation that is characteristic of all of Dr. Lintner's work. The report covers a little more than one hundred pages, illustrated by twenty-five figures, mostly from the writings of Riley, Packard, Glover, etc. After a short introduction of general and popular interest, there is a more or less complete discussion of the following insects: *Eumenes fraternus*, *Hypoderma bovis*, Drosophila sp., *Adalia bipunctata*, *Dermestes lardarius*, *Agrilus ruficollis*, *Coptocycla aurichalcea*, *C. clavata*, *Bruchus scutellaris*, *Hymenorus obscurus*, *Meloë angusticollis*, *Epicauta vittata*, *E. cinerea*, *E. pennsylvanica*, *Pomphopœa sayi*, *Podisus spinosus*, *Prionidus cristatus*, *Pulvinaria innumerabilis*, *Aphis brassicæ*, *Gryllotalpa borealis*, *Melanoplus femur-rubrum*, *Ixodes bovis*, and *Bryobia pratensis* (?). To these accounts a list of publications of the author during 1880, 1881, and 1889 is added as Appendix A, while Appendix B contains a list of contributions to the department.

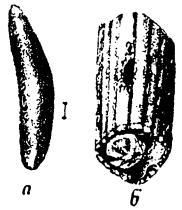
Sexual Selection in Spiders.—Mr. and Mrs. W. G. Peckham have lately published "Some Additional Observations on Sexual Selection in Spiders of the Family Attidæ,"[2] to which they append an interesting discussion of Mr. Wallace's theory of sexual ornamentation. Observations on the mating habits of an undescribed Habrocestum, *Attus leopardus*, and *Synageles picata* are recorded, showing that the males during courtship so deport themselves that many of the bright markings are displayed before the female to advantage. The authors then take up Mr. Wallace's attempt to explain the superior beauty of male animals without the aid of selection, by attributing it to their greater vigor and activity and higher vitality. "This proposition," the authors state, "is a complexus holding within it three implications which must be proved before its acceptance can be demanded: First, that male animals have higher vitality than females second, that those males that have the highest vitality have also the most brilliant and intense colors; and third, that the superior ornamentation of the males is due to their activity." The authors discuss each of these

[1] Edited by Dr. C. M. Weed, Hanover, N. H.

[2] Occasional Papers of the Natural History Society of Wisconsin, Vol. I., No. 3.

propositions in turn, and, in their concluding summary, state: "We have found that the weak point in Mr. Wallace's argument was in the small amount of evidence that he was able to offer in support of each of the three propositions, so that the successive steps in the argument grew weaker and weaker. Indeed, it seemed to us that although many of his arguments were strikingly ingenious, they all appeared to rest on very slender evidence, or to admit of another interpretation." The mechanical execution of this brochure, like that of its predecessors, is altogether admirable, and several excellent figures by Mr. J. H. Emerton add to the interest of the text.

Oviposition of Dectes spinosus.[3]—Late in the forenoon of the 12th of last July I came upon a female *Dectes spinosus* in the act of depositing an egg in the stem of horseweed (*Ambrosia trifida*). When discovered she had gnawed away the outer fibres of the stem over a small area, and was standing head downward attempting to insert her ovipositor into the stalk. After three trials she succeeded, and the instrument was inserted to its base. About a minute later the posterior portion of the abdomen began to contract and expand, and in less than a minute an egg was placed in the stalk. The beetle then withdrew the ovipositor, and walked rapidly to the top of the plant.



The egg was deposited obliquely in the pith on the opposite side of the stem from which the beetle stood. The place of oviposition was about two-thirds of the way from the bottom to the top. The egg is 2 mm. long by 0.3 mm. wide; elongate oval, slightly curved, and of a pale yellow color. It is represented, magnified, at *a* of the accompanying figure, while *b* represents, nearly natural size, a section of the Ambrosia stem with the place of oviposition on its side.—C. M. WEED.

Species of Hymenoptera.—The thirty-seventh fascicle of M. Ed. André's Species des Hymenoptera d'Europe et d'Algerie has lately been issued. It completes the first volume of the Braconidæ, by Rev. T. A. Marshall, and adds about twenty pages to the volume on the Sphegidæ, by M. André, who states that the work on this last-named family is now suspended on account of his inability to use his eyes for microscopic work,—an embarrassment which his entomological brethren will join us in hoping may be speedily terminated.[4] Four excellent

[3] Read before the Entomological Club, A. A. A. S., August, 1890.

[4] Since this was written information has been received of the death of M. André.

colored plates of Braconidæ accompany the fascicle. Future issues are to contain a discussion of the Chrysididæ and Cynipidæ, the former by M. R du Buysson. This admirable series of monographs will prove indispensable to American students of Hymenoptera, and should be in every entomological library.

Papers by Miss Murtfeldt.—The 1889 Report of the Missouri State Horticultural Society contains three excellent papers by Miss Mary E. Murtfeldt. The first, entitled "Outlines of Entomology," contains six chapters discussing the structure, habits, and transformations of insects; the second, "Our Insect Musicians," is a popular discussion of an interesting subject; and the third consists of the Report of the Committee on Entomology for the year. In the last reference is made to the injuries of *Ceresa bubalus*, *Ceutorrhyncus napi*, *Lygus pratensis*, and *Gortyna nitela*, each of which did considerable damage in Missouri during the year.

American Tertiary Hemiptera.—Under the title "Physiognomy of the American Tertiary Hemiptera," Mr. S. H. Scndder published a few months ago [5] an important contribution to our knowledge of fossil Hemiptera. It consists of a summary statement of the results of the author's extended study of the subject, with remarks upon the relation of the American Tertiary Hemiptera to those of the present day, and to the Tertiary fauna of Europe. We have room only for the following generalizations: "(1) The general facies of the hemipterous fauna [of North America] is American, and distinctly more southern than its geographical position would indicate. (2) All the species are extinct, and . . . there is scarcely an instance where the same species occurs in two localities. (3) No species are identical with any European Tertiary forms. (4) A very considerable number of genera are extinct, often including numerous species. (5) Existing genera which are represented in the American Tertiaries are mostly American, not infrequently subtropical or tropical American, and where found also in the old world are mostly those which are common to the north temperate zone. A warmer climate than at present is distinctly indicated. (6) There are no extinct families. (7) The appearance of the same familes, and even of the same groups of genera, in the European and the American Tertiaries is common, but of the same restricted genus very rare."

The Polished Harvest Spider.—This handsome species (*Liobunum politum*) was first described in my "Catalogue of the Phalangiinæ

[5] Proceedings Boston Society Natural History, Vol. XXIV., pp. 562–579.

of Illinois,"[6] from three specimens taken about a shed in Champaign county, Illinois. It has not since been discussed.

This harvest spider is an outdoor species, occurring abundantly in fields and woods, although seldom found about barns and outhouses. During the past summer I have taken great numbers in Franklin county, Ohio, in the grass along the banks of a small creek, and among the driftwood left by the overflowing of the Olentangy River. The species becomes fully developed early in July; and the males and females are about equally abundant. Both sexes, when disturbed, emit from the coxal region a liquid having a peculiarly sharp, pungent odor.

I placed a number of these harvest spiders in a large glass vivarium July 10th, 1890. Two days afterward a pair were observed mating. They were standing on one of the vertical sides of the vivarium facing each other. The male kept waving his second pair of legs in the air; his body was somewhat higher than that of his mate, being inclined downward and forward, while that of the latter was inclined upward in front. Similar observations were subsequently made on many other individuals. When alarmed both sexes have a habit of standing on six legs, rapidly vibrating the body, and moving the second legs in a partial transverse circle in the air. In confinement they eagerly devour plant-lice.

The male *L. politum*, is represented, natural size, at Fig. 1, Plate IX. At Fig. 2 are shown the more important structural details, magnified. The body with the legs detached is represented at *a*; *b* represents the eye eminence, side view; *c*, the same, front view; *d*, the palpus, side view; and *e*, the palpal claw.

DESCRIPTION.

Male.—Body, 5 mm. long; 2.8 mm. wide. Palpi, 3.5 mm. long. Legs: I., 25 mm.; II., 51 mm.; III., 26 mm.; IV., 36 mm.

Dorsum smooth, finely granulated; clear reddish-brown, with no markings, except occasionally a faint indication (shown by a slightly darker shade) of the usual central dark marking. Eye eminence rather prominent, slightly constricted at base, black above, canaliculate, with a regular curved series of small, acute, black spines over each eye. Cheliceræ whitish, tips of claws black. Palpi slender, light brown, with femur and patella dusky; finely pubescent, with a subobsolete row of minute dark tubercles on the inner ventro-lateral surface of femur, and another row on the inner ventro-lateral surface of

[6] Bull. Ill. St. Lab. Nat. Hist., Vol. III., pp. 89–90.

PLATE IX.

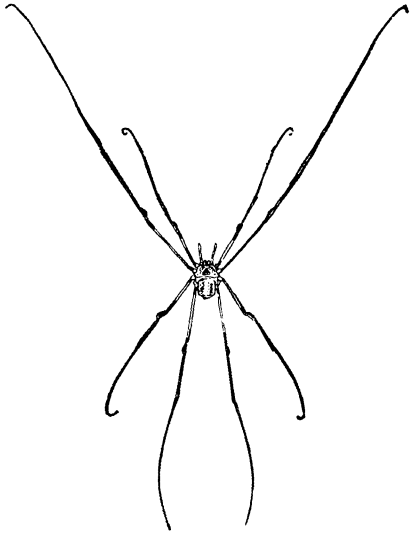


FIG. 1.

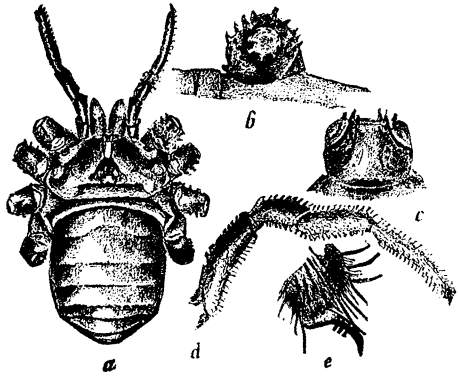


FIG. 2.

Liobunum politum Weed.

tarsus; joints slightly arched. Ventrum with coxæ, including the membranous distal lateral tips, and generally the trochanters, vermilion red. Legs with proximal portions light brown; distally dark brown or blackish. Shaft of genital organ nearly straight, slender, flattened, canaliculate; distal portion very slightly expanded, then slightly contracted, and again expanded into a half spoon-shaped portion, and terminating in a small acute point.

Female.—Body, 6 mm. long; 3.5 mm. wide. Palpi, 4 mm. long. Legs: I., 24 mm.; II., 52 mm.; III., 25 mm.; IV., 38 mm.

Differs from the male in having a larger, rounder body; and in the color of the dorsum, which is brown, with a rather distinct, darker central marking and numerous whitish spots arranged more or less transversely. In some specimens the central marking is subobsolete. Apical rings of ovipositor white. Described from many specimens.

It is a curious fact that while I have found this species one of the commonest harvest spiders in Ohio, especially during 1889 and 1890, I took it but once during three seasons' collecting in Illinois, and have received it but once from outside these two states. Not a single specimen has been found, except in this one case, in the numerous collections received from friends and correspondents in twenty other states. The specimens in my collection represent the following counties in the three states named, the dates given being the time the specimens were collected. All were taken by myself or my assistants, except those from Iowa, which were received from Professor Herbert Osborn. Illinois: Champaign. Iowa: Story (Osborn). Ohio: Champaign, 18 August, 1890; Clermont, August, 1890; Delaware, 18 September, 1890; Franklin, 9 July, 1889, 7, 8, 9, 10, 27, 31 July, 6 August, 2, 5, 6, 9 September, 1890; Lawrence, 5, 6 September, 1890; Madison, 19 July, 1890; Sciota, 3 September, 1890; Warren, 5 July, 14, 16 August, 1890.

It is extremely probable that this species occurs, at least in limited numbers, in most of the central western states.—CLARENCE M. WEED.